Cooperative task assignment for multiple vehicles

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PROPOSITIONS

Associated with the PhD thesis:

Cooperative Task Assignment for Multiple Vehicles

by

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1. An optimal path planning algorithm is necessary for the task assignment of multiple vehicles to optimally visit a set of target locations in a drift field (Chapter 2).
2. The task assignment for multiple vehicles to optimally visit a set of target locations is in general an NP-hard problem, which is usually solved sub-optimally (Chapter 2 to Chapter 5).
3. Efficient and effective heuristic algorithms are required for optimizing the multi-vehicle task assignment problem (Chapter 3).
4. A lower bound on the optimal solution to the multi-vehicle task assignment problem as a minimization problem is of great value for evaluating the performances of a task assignment algorithm (Chapter 3 and Chapter 5).
5. Allowing vehicles to have a longer communication range does not necessarily lead to better coordination among the group of vehicles due to the lack of global information (Chapter 4).
6. We face various decision-making moments in our daily lives. And we learn day by day how to make better decisions.
7. Some 'rocks' indeed make the uphill paths of our lives challenging, but they can be the stepping stones for us to enjoy the stunning views of the mountains if we navigate properly.